WHAT IS CLAIMED IS:

1. A method of making a tire, said tire comprising:

- a carcass structure (2);

- a tread band (8) at a position circumferentially external to the carcass structure (3); and

- at least one pair of sidewalls (9) at laterally opposite positions on the carcass structure (2);

wherein accomplishment of the carcass structure (2) involves formation of at least one first carcass ply (3) by the following steps:

- preparing strip-like lengths (13), each comprising longitudinal and parallel thread-like elements (14) at least partly coated with at least one layer of raw elastomer material (17);

- depositing each of the strip-like lengths (13) onto a toroidal support (11) in a substantially U-shaped conformation about the profile in transverse section of the toroidal support (11), to define two side portions (25) substantially extending in planes orthogonal to a geometric axis of rotation of the toroidal support (11) at mutually spaced apart positions in an axial direction, and a crown portion (24) extending at a radially outer position between the side portions (25),

wherein the crown portions (24) of each strip-like length (13) are disposed consecutively in side by side relationship along the circumferential extension of the toroidal support (11), whereas the side portions (25) of each strip-like length (13) are each partly covered with a side portion of at least one circumferentially consecutive length.

2. The method as claimed in claim 1, wherein preparation of said strip-like lengths (13) is carried out by cutting actions executed sequentially on at least one continuous strip-like element (13a) incorporating said thread-like elements (14) in said layer of raw elastomer material (17).

3. The method as claimed in claim 1, wherein each cutting action is followed by deposition of the individual length (13) thus obtained onto the toroidal support (11).

4. The method as claimed in claim 1, wherein the side portions (25) belonging to circumferentially contiguous strip-like lengths (13) on the toroidal support (11) are caused to mutually converge at the geometric axis of rotation of the toroidal support itself.

5. The method as claimed in claim 1, wherein covering of the side portions (25) of each strip-like length (13) progressively decreases starting from a maximum value at radially inner ends of the side portions until a zero value at transition regions between said side portions and crown portions (24).

6. The method as claimed in claim 1, wherein the individual strip-like lengths (13) are sequentially deposited onto the toroidal support (11) according to a circumferential distribution pitch corresponding to the width of the strip-like lengths.

7. The method as claimed in claim 1, wherein the individual strip-like lengths (13) are sequentially deposited onto the toroidal support (11) according to a circumferential distribution pitch corresponding to a multiple of the width of the strip-like lengths.

8. The method as claimed in claim 1, wherein each strip-like length (13) has a width corresponding to a submultiple of the circumferential extension of the toroidal support (11), as measured at an equatorial plane thereof.

9. The method as claimed in claim 1, wherein accomplishment of said at least one first carcass ply (3) further involves a step of sequentially pressing each strip-like length (13) at its side portions (25), to define regions of increased width close to the inner

circumferential edges of the carcass structure (2).

10. The method as claimed in claim 9, wherein preparation of said strip-like lengths (13) is carried out by cutting actions executed sequentially on at least one continuous strip-like element (2a) incorporating said thread-like elements (14) in said layer of raw elastomer material (17), said pressing step being carried out on the continuous strip-like element (2a) before execution of the cutting action.

11. The method as claimed in claim 9, wherein concurrently with said pressing step, moving apart from each other of the thread-like elements (14) comprised in the strip-like length (13) is carried out.

12. The method as claimed in claim 1, wherein during the deposition step, at least one of the strip-like lengths (13) is held on the toroidal support (11) by a suction action produced through the toroidal support itself.

13. The method as claimed in claim 1, wherein deposition of each strip-like length (13) involves the steps of:

- laying down the strip-like length (13) transversely and at a centered position relative to an equatorial plane of the toroidal support (11);
- radially moving the strip-like length (13) close to the toroidal support (11) so as to form the crown portion (24) of the length on the toroidal support itself;
- translating the opposite ends of the strip-like length (13) substantially radially close to the geometric axis of rotation of the toroidal support (11) for applying the side portions (25) of the strip-like length (13) to the toroidal support (11);
- rotating the toroidal support (11) through an angular pitch corresponding to the circumferential distribution pitch of the strip-like lengths (13).

14. The method as claimed in claim 1, further comprising a step of pressing said side portions (25) of the strip-like lengths (13) against the side walls of the toroidal support (11).

15. The method as claimed in claim 1, wherein accomplishment of the carcass structure (2) further comprises the step of applying at least one inextensible annular structure (4) to a region close to each of the inner circumferential edges of the carcass ply (3) obtained from the deposition step.

16. The method as claimed in claim 1, wherein accomplishment of the carcass structure (2) further comprises the step of forming at least one second carcass ply (31) superposed on the first carcass ply (3).

17. The method as claimed in claim 16, wherein formation of the second carcass ply (31) takes place in the same manner as accomplishment of the first carcass ply (3).

18. A method of making a tire provided with:

- a carcass structure (2) having a pair of circumferentially inextensible annular structures (4) each disposed close to a radially inner circumferential edge of said carcass structure (2);

- a tread band (8) located at a circumferentially outer position to the belt structure (5);

- at least one pair of sidewalls (9) located at laterally opposite positions on the carcass structure (2);

wherein accomplishment of each inextensible annular structure (4) comprises the steps of:

- depositing at least one first elongated element in concentric coils (27a) into a molding cavity (30) in view of forming a first circumferentially inextensible annular insert (27) substantially in the form of an annulus;

- depositing at least one second elongated element in concentric coils (28a) into the molding cavity (30)

in view of forming a second circumferentially inextensible annular insert (28) substantially in the form of an annulus disposed concentrically in side by side relationship relative to the first annular insert (27);

- forming at least one filling body (29) of raw elastomer material in the molding cavity (30), which filling body is interposed between, and intimately joined to the first and second circumferentially inextensible annular anchoring elements (27, 28).

19. The method as claimed in claim 18, wherein each of said inextensible annular structures (4) is interposed between at least one first carcass ply (3) and one second carcass ply (31) superposed on said first carcass ply.

20. The method as claimed in claim 18, wherein the deposition step of at least one of said first and second elongated elements is preceded by a rubberizing step in which the elongated element is coated with at least one layer of raw elastomer material.

21. The method as claimed in claim 18, further comprising a step of magnetically retaining at least one of said first and second circumferentially inextensible annular inserts (27, 28), at a predetermined position, within the molding cavity (30).

22. The method as claimed in claim 18, wherein formation of said filling body (29) comprises the steps of:

- interposing at least one annular element of raw elastomer material of a predetermined volume between the first and second inextensible annular inserts (27, 28);

- reducing the volume of the molding cavity (30) in order to compress said annular element of elastomer material between the first and second inextensible annular inserts (27, 28) and deform it until it fills said molding chamber.

23. The method as claimed in claim 1, wherein formation of the carcass structure (2) is preceded by a step of coating the toroidal support (11) with at least one sealing layer or liner (10) made of an elastomer material impervious to air.

24. The method as claimed in claim 23, wherein said coating step is carried out by winding at least one ribbon-like band (12) of an air-proof elastomer material in coils disposed side by side along the profile in transverse section of the toroidal support (11).

25. The method as claimed in claim 1, further comprising the steps of:

- disengaging the tire (1) from the toroidal support (11);
- introducing an air tube into the carcass structure (2);
- vulcanizing the tire (1).

26. The method as claimed in claim 1, further comprising a vulcanization step during which stretching of said carcass plies (3) and belt strips (6, 7) is carried out for achieving an expansion of the tire of a linear amount included between 2% and 5%.

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